JAMA Clinical Guidelines Synopsis

Lower Gastrointestinal Hemorrhage

Hira Imran, MD; Jason T. Alexander, MD; Christopher D. Jackson, MD

GUIDELINE TITLE Management of Patients With Acute Lower Gastrointestinal Bleeding

RELEASE DATE February 2023

PRIOR VERSION April 2016

DEVELOPER American College of Gastroenterology (ACG)

TARGET POPULATION Patients with gastrointestinal (GI) bleeding originating from a suspected colorectal source

SELECTED RECOMMENDATIONS

- Risk stratification tools (eg, Oakland score) are suggested to aid clinical judgment in identifying low-risk patients with GI bleeding who are appropriate for early discharge and outpatient diagnostic evaluation (conditional recommendation; low-quality evidence).
- For patients with hemodynamic instability and hematochezia presenting within 4 hours of onset, computed tomography angiography (CTA) is the suggested initial diagnostic test (conditional recommendation; low-quality evidence).
- For patients with a positive CTA, prompt referral to interventional radiology for transcatheter arteriography and possible embolization is recommended. Colonoscopy can also be considered in specialized, experienced centers (strong recommendation; moderate-quality evidence).
- Anticoagulant reversal is suggested for life-threatening bleeding in patients with significantly prolonged international normalized ratio (INR) or direct oral anticoagulant (DOAC) use within the previous 24 hours who do not respond to initial resuscitation (conditional recommendation; very low-quality evidence).
- After resolution of lower GI bleeding (LGIB), patients who require anticoagulation to reduce the risk of thromboembolism should resume anticoagulation, typically within 7 days (strong recommendation; moderate-quality evidence).
- Patients with a high-quality colonoscopy showing diverticulosis with no colorectal neoplasia within the last 12 months may not need repeat inpatient colonoscopy if bleeding has subsided and no new symptoms are present (conditional recommendation; low-quality evidence).

Summary of the Clinical Problem

Lower GI bleeding, defined as hematochezia or bright red blood passed per rectum due to colorectal pathology, accounts for one-fifth of all cases of GI hemorrhage among patients requiring hospital admission.[1]

Characteristics of the Guideline Source

This guideline highlights changes since the 2016 ACG LGIB guideline. Guideline participants were gastroenterologists selected by the ACG, with no radiologists or intensivists represented. Questions relevant to the management of LGIB were explored with systematic literature searches,[2] and randomized clinical trials and meta-analyses were preferred. The literature review yielded 87 studies that informed the guidelines. Potential conflicts of interest were stated in the final manuscript (**Table**).[3]

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Evidence Base

GRADE methodology was used to assess the strength and quality of recommendations. Eight of the 16 recommendations were rated as strong. The guideline contained an additional 10 key concepts based on expert opinion because the concepts were either not amenable to the GRADE process or because of limited evidence. This synopsis focuses on items the authors thought were most applicable to generalist physicians and hospitalists.

Risk stratification scores for acute LGIB may identify patients appropriate for outpatient evaluation. Higher Oakland scores (a composite of age, sex, previous LGIB admission, heart rate, systolic blood pressure, digital rectal examination findings of blood, and hemoglobin level with a range of 0-35 g/dL) are associated with adverse outcomes such as rebleeding, blood transfusion, need for therapeutic intervention such as endoscopic hemostasis, or hospital readmission within 28 days.[4] In data from 140 US hospitals, an Oakland score of 8 or lower was associated with lower likelihood of the adverse outcomes noted above (0.48% of 38 067 patients), with a sensitivity of 96% (95% CI, 95%-99.5%), a specificity of 16% (95% CI, 15.6%-16.4%), and a likelihood ratio of 0.10 (95% CI, 0.03-0.32), although digital rectal examination findings were unavailable.[5] The lack of prospective, multicenter studies that validate this risk stratification score led to a conditional recommendation for its use.

CTA has replaced colonoscopy as the initial test for patients with hemodynamically significant LGIB. A CTA-first approach can facilitate more rapid identification of and interventional radiological treatment for LGIB and is less likely to be constrained by hemodynamic parameters or inadequate bowel preparation than colonoscopy. In a prospective study of 202 patients with acute hematochezia who underwent CTA prior to colonoscopy for presumed diverticular bleed, stigmata of recent hemorrhage were confirmed on colonoscopy (performed within 24 hours of CT) in 38 of 66 patients with diverticular hemorrhage (sensitivity for CT extravasation, 58% [95% CI, 45%-70%]). Contrast extravasation was absent in 124 of 136 patients

Table. Guideline Rating[3]

Standard	Rating
Establishing transparency	Fair
Management of conflict of interest in the guideline development group	Fair
Guideline development group composition	Poor
Clinical practice guideline–systematic review intersection	Good
Establishing evidence foundations and rating strength for each of the guideline recommendations	Good
Articulation of recommendations	Good
External review	Poor
Updating	Fair
Implementation issues	Good

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without stigmata of recent hemorrhage on colonoscopy (specificity, 91% [95% CI, 85%-95%]), yielding a positive likelihood ratio of 6.4 and a negative likelihood ratio of 0.5.[6]

After a CTA with active extravasation for LGIB, follow-up transcatheter angiography or colonoscopy in centers with experience in performing endoscopic hemostasis using clips, epinephrine injection, and thermocoagulation is recommended. In a retrospective study of 71 patients, angiography within a mean of 5.1 hours after CTA with active extravasation confirmed the bleeding source in 55% of patients vs colonoscopy within a mean of 15.5 hours, which confirmed the source of bleeding in 26% (P = .03 for the comparison).[7] The ability to perform direct hemostatic therapy by either modality was associated with shorter time to procedure in multivariable analyses (P = .01).[7] A 1-hour increase in time was associated with an 8% decrease in ability to deliver hemostatic therapy.

Determining the need to reverse anticoagulation in acute LGIB depends on multiple factors, though most patients do not require reversal. For patients taking vitamin K antagonists who have life-threatening bleeding, the degree of INR elevation and timing of endoscopic evaluation should be considered. While reversal agents are also suggested for life-threatening bleeding in patients taking DOACs who do not respond to initial resuscitation and DOAC cessation, the recommendations for reversal of either vitamin K antagonists or DOAC are based on very low-quality evidence.

With resolution of LGIB, patients who require anticoagulation to reduce the risk of thromboembolism should resume anticoagulation, typically within 7 days. A retrospective cohort study involving 14 925 patients with an index episode of diverticular bleeding found that discontinuing anticoagulation altogether was associated with an increased risk of ischemic stroke (adjusted hazard ratio, 1.93 [95% CI, 1.17-3.19]; absolute risk difference, 3.3%) at 1.07 years, while resumption of anticoagulation did not increase the risk of recurrent hemorrhage (hazard ratio, 0.98 [95% CI, 0.79-1.22]).[8] A meta-analysis of 10 observational studies (4376 patients) evaluating any GI bleeding found that odds of recurrent bleeding was higher with resumption of anticoagulation (odds ratio [OR], 1.65 [95% CI, 1.04-2.62]); however, the odds of both thromboembolism (OR, 0.34 [95% CI, 0.18-0.65]) and mortality (OR, 0.50 [95% CI, 0.42-0.60]) were reduced.[9]

For patients taking nonaspirin nonsteroidal anti-inflammatory drugs (NSAIDs) who are hospitalized for diverticular hemorrhage, the current guideline strongly recommends discontinuing NSAIDs.

Although an inpatient colonoscopy can be pursued once bleeding has resolved, emerging evidence suggests that colonoscopy before hospital discharge may not be needed when a high-quality colonoscopy within the last 12 months showed only diverticulosis with no colorectal neoplasia. A cohort study of 4761 patients who underwent 5195 colonoscopies demonstrated abnormalities in 68% of procedures; however, only 15% of patients had stigmata of recent bleeding, only 3.8% of colonoscopies identified active bleeding, and malignant-appearing lesions were seen in 2.5%.[10]

Benefits and Harms

Considering results from recent colonoscopies for patients whose bleeding has resolved may decrease the need for an urgent colonoscopy during hospitalization. In patients who require resumption of anticoagulation following LGIB, implementation of the guideline recommendations may increase recurrent LGIB, whereas fewer thromboembolic complications may decrease overall morbidity and mortality.

Discussion

Risk scores should supplement but not supplant clinical judgment in caring for patients with acute LGIB. Hemodynamic instability in the setting of acute LGIB could be indicative of a brisk source of upper GI bleeding. Prior to endoscopic intervention in patients with acute LGIB, assessment and optimization of hemodynamic parameters improves outcomes. Anticoagulant reversal should be reserved for patients with life-threatening hemorrhage, although scant evidence exists to guide clinicians on optimal reversal agent(s).

Areas in Need of Future Study or Ongoing Research

Further prospective evaluation of risk stratification scores such as the Oakland score to identify patients at low risk of serious complications of LGIB are needed. Additionally, prospective studies are needed to more accurately assess the benefits and risks of reversal agents for anticoagulant-associated LGIB.

ARTICLE INFORMATION

Author Affiliations: Division of General Internal Medicine, Department of Medicine, University of Tennessee Health Science Center, Memphis (Imran, Jackson); Division of General Internal Medicine, Department of Medicine, University of Chicago, Chicago, Illinois (Alexander).

Corresponding Author: Christopher D. Jackson, MD, Division of General Internal Medicine, Department of Medicine, University of Tennessee Health Science Center, 920 Madison Ave, Ste 531, Memphis, TN 38163 (cjacks67@uthsc.edu).

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